



Name _____ Date _____

Practice: For use after Lesson 7.2, Algebra 2 with Trigonometry

Algebra 2
Unit #6
WS #3**Simplifying Rational Expressions**

Simplify.

1. $\frac{21x^3y^4}{7x^2y^2}$ _____

3. $\frac{18x^2y^4}{9x^3y^7}$ _____

5. $\frac{3x + 6}{5x + 10}$ _____

7. $\frac{5y}{y^2 + 3y}$ _____

9. $\frac{4y - 12}{6 - 2y}$ _____

11. $\frac{x^2 - 5x}{x^2 - 25}$ _____

13. $\frac{y^2 - 16}{y^2 - 7y + 12}$ _____

15. $\frac{y^2 + 13y + 40}{y^2 - 2y - 35}$ _____

17. $\frac{4y^2 - 36}{y^2 + 10y + 21}$ _____

19. $\frac{6y^2 + 5y - 6}{3y^2 - 5y + 2}$ _____

2. $\frac{12x^3y^3}{-18xy^2}$ _____

4. $\frac{-40x^4y^2}{56x^5y}$ _____

6. $\frac{4x + 20}{3x + 15}$ _____

8. $\frac{2y}{y^2 + 6y}$ _____

10. $\frac{x^2 - 9}{2x + 6}$ _____

12. $\frac{x^2 + 7x + 10}{x^2 - 4}$ _____

14. $\frac{y^2 + 3y - 18}{y^2 - 36}$ _____

16. $\frac{3x^2 - 12}{x^2 - x - 6}$ _____

18. $\frac{2x^2 + 11x + 5}{3x^2 + 17x + 10}$ _____

20. $\frac{x^2 - 6xy + 5y^2}{x^2 - y^2}$ _____

Applications21. **Geometry** The area of a rectangle is $x^2 + 6x$ cm². If the width is x cm, find the length.22. **Geometry** The perimeter of a pentagon is $54x^3y^2$. The perimeter of a rectangle is $18xy^3$. Find the ratio of the perimeter of the pentagon to the perimeter of the rectangle.**MIXED PRACTICE**

Simplify.

23. $\frac{10xy^2}{15x^3y}$ _____

25. $\frac{x^{-2}}{x^{-5}}$ _____

27. $\left(\frac{(x^{-2})^{-3}}{(y^3)^{-1}}\right)^2$ _____

24. $\frac{7x - 28}{x^2 - 16}$ _____

26. $\frac{x^2 - 12x - 28}{x^2 - 14x}$ _____

28. $\left(\frac{(2x)^0}{y^{-5}}\right)^3$ _____